Claims

1. A generator for generating an electric current comprising

current generating means comprising first generator means and second generator means arranged to generate electric current in response to relative rotation between said first and second generator means;

a first rotary part having vanes, said first rotary part arranged to rotate in a first direction around an axis when exposed to a flow of air perpendicular to said axis; said first rotary part operatively connected to a first of said first and second generator means; and

said axis is through an axial shaft about which said rotary part is arranged to rotate, wherein

said axial shaft is configured to receive electrical connection means therethrough, said electrical connection means configured to provide an electrical connection between said current generating means and generator electrical means.

2. A generator according to claim 1, further comprising a second rotary part having vanes, said second rotary part arranged to rotate in a second opposite direction around said axis when exposed to a flow of air perpendicular to said axis; said second rotary part operatively connected to a second of said first and second generator means.

3. A generator according to claim 1 or claim 2, further comprising a third rotary part arranged to rotate in the same direction as, and

operatively connected to the same generator means as, said first rotary part.

5. A generator according to any preceding claim, wherein said axial shaft comprises sections each releasably engageable with at least one other section.

6. A generator according to preceding claim, wherein said electrical connection means comprises sections each releasably engageable with at least one other section.

7. A generator according to any preceding claim comprising a rotary part configured to allow air to flow through said rotary part in a direction along said axis during rotation.

8. A generator according to claim **3**, configured such that the vanes of said first rotary part and said third rotary part are out of phase with each other.

9. A generator according to any preceding claim comprising a rotary part having a hub from which a plurality of arcuate vanes extend.

10. A generator according to any preceding claim comprising a rotary part having rotary part binding means extending between two adjacent vanes.

11. A generator according to any preceding claim, wherein said current generating means comprises generator means secured in a sleeve arrangement, said sleeve arrangement configured to be positioned inside a rotary part such that said generator means is arranged about said axis.

12. A generator according to claim **11**, wherein said sleeve arrangement comprises permanent magnets.

13. A generator according to claim **3**, wherein said first and third rotary parts are arranged to rotate in said first direction and are operatively connected to said first generator means, said first generator means comprising an armature, and said second rotary part is operatively connected to said second generator means, said second generator means comprising permanent magnets.

14. A generator according to claim **13**, in which said first and second generator means are arranged within said second rotary part.

15. A generator according to any preceding claim comprising generator electrical means positioned outside of the rotary section or sections of said generator.